

The Scandinavian Journal of
*Clinical & Laboratory
Investigation*

EDITED BY
THE SCANDINAVIAN SOCIETY
FOR CLINICAL CHEMISTRY
AND CLINICAL PHYSIOLOGY

MANAGING EDITOR
O. Stokke

EDITORS

J. Hartiala	K. O. Pedersen
J. H. Henriksen	I. Romslo
E. Hultman	K. Rootwelt
M. Hørder	U-H. Stenman
K. Liewendahl	J. Waldenström

EDITORIAL SECRETARIES

K. Bjøro
T. A. Hagve

Scand. J. Clin. Lab. Invest. - Vol. 51 - 1991

BLACKWELL SCIENTIFIC PUBLICATIONS

Published for

Medisinsk Fysiologisk Forenings Forlag, Oslo by
Blackwell Scientific Publications
Osney Mead, Oxford OX2 0EL
25 John Street, London WC1N 2BL
23 Ainslie Place, Edinburgh EH3 6AJ
3 Cambridge Center, Suite 208, Cambridge, MA 02142,
USA
54 University Street, Carlton, Victoria 3053, Australia

© 1991 Medisinsk Fysiologisk Forenings Forlag, Institute of
Clinical Biochemistry, Rikshospitalet, N-0027 Oslo 1.

Printed and bound in Great Britain
by the Devonshire Press, Torquay

Authorization to photocopy for internal or personal use or
the internal or personal use of specific clients is granted by
Medisinsk Fysiologisk Forenings Forlag for libraries and
other users registered with the Copyright Clearance Center
(CCC) Transactional Reporting Service, provided that the
base fee of \$05.00 per copy is paid directly to the CCC,
27 Congress Street, Salem, MA 01970, USA. This consent
does not extend to other kinds of copying, such as copying
for general distribution, for advertising or promotional
purposes, for creating new collective works or for resale.
Special requests should be addressed to the Editor.
0036-5513/91 \$05.00.

No. 1

Review of a Scandinavian Thesis

Recombinant human erythropoietin: experimental and clinical applications: <i>O. J. Nielsen</i> ...	1
--	---

Original Articles

The influence of extracellular magnesium on cell damage induced by ATP depletion in human fibroblasts: <i>S. R. Kristensen & M. Hørder</i>	11
Oxidized low-density lipoprotein reduces plasma coagulation <i>in vitro</i> : <i>M. Aviram & D. Presser</i>	17
Release of immunoreactive human neutrophil proteinase 4, normally and in peritonitis: <i>E. Lundberg, M. Bergenfeldt & K. Ohlsson</i>	23
Kidney volume in type 1 (insulin-dependent) diabetic patients with normal or increased urinary albumin excretion: effect of long-term improved metabolic control: <i>B. Feldt-Rasmussen, L. Hegedüs, E. R. Mathiesen & T. Deckert</i>	31
Awareness of hypercalcaemia in a hospital population?: <i>A. Frølich, P. McNair & I. Transbøl</i>	37
Glycoprotein glycosyltransferase activities in serum in alcohol-abusing patients and healthy controls: <i>H. Stibler & S. Borg</i>	43
Haemodialysis-induced changes in red blood cell size-distribution histograms: <i>P. C. Bartels, P. W. Helleman, & J. B. J. Soons</i>	53
Respiratory frequency and distribution of cardiac output in rats breathing gas with different densities: <i>G. W. Bergø & I. Tyssebotn</i>	59
High-performance liquid chromatographic determination of creatinine: <i>S. Ekelund & P. Påby</i>	67
Significance of adrenoceptor-mediated atrial natriuretic factor release in normal humans: <i>N. Keller</i>	73
Estimation of granulocyte and lymphocyte potassium in normal subjects and in patients treated with diuretics because of cardiovascular disease: a methodological study: <i>T. Melchior, D. Hallam & N. T. Pedersen</i>	85
Acute cardiovascular effects of insulin in hyperglycaemic type I diabetics: <i>P. C. Gøtzsche, H. Kelbæk, S. F. Vissing, S. L. Nielsen, O. Munck, N. J. Christensen, J. Lyngsøe & E. R. Mathiesen</i>	93
Atrial natriuretic peptide and renal adaptation to contralateral nephrectomy in healthy man: <i>A.-L. Kamper, E. B. Pedersen, S. Strandgaard, N.-H. Holstein-Rathlou, P. P. Leyssac, P. Skaarup, L. Hemmingsen, J. Holm & O. Munck</i>	99

Referees

List of Referees for 1990	105
----------------------------------	-----

No. 2

Original Articles

Renal and intestinal calcium-binding proteins in normal and uraemic rats: <i>M. Staun, N. Egjford, H. Daugaard & K. Olgaard</i>	111
--	-----

A new assay for transglutaminase: <i>B. Seiving, P. Stenberg & B. Nilsson</i>	119
Glutathione and glutathione-metabolizing enzymes in the erythrocytes of healthy children and in children with insulin-dependent diabetes mellitus, juvenile rheumatoid arthritis, coeliac disease and acute lymphoblastic leukaemia: <i>M-R. Ståhlberg & E. Hietanen</i> ...	125
The influence of extra-umbilical serotonin, PGE ₂ and PGF _{2α} on prostanoid in human umbilical arteries: <i>G. Haugen, K. Bjørø & S. Stray-Pedersen</i>	131
Reverse-phase ion-pairing high-performance liquid chromatography of phosphocreatine, creatine and creatinine in equine muscle: <i>M. Dunnett, R. C. Harris & C. E. Orme</i> ...	137
Screening for haemochromatosis: influence of analytical imprecision, diagnostic limit and prevalence on test validity: <i>P. Wiggers, J. Dalhøj, P. Hyltoft Petersen, O. Blaabjerg & M. Hørder</i>	143
Detection of neutrophil granulocytes in peritoneal dialysis effluents by means of the Cytur-test®: <i>S. Antonsen, F. B. Pedersen, P. Wang & The Danish Study Group on Peritonitis in Dialysis (DASPID)</i>	149
Evaluation of a laboratory health examination programme in a Swedish industry (Volvo): <i>G. Rose & C. Bengtsson</i>	155
Effects of acute cardioselective and non-selective beta-adrenergic blockade on left-ventricular volumes and vascular resistance at rest and during exercise: <i>H. Kelbæk & J. Godtfredsen</i>	161
Effects of calcitonin gene-related peptide (CGRP) on regional haemodynamics and on selected hepato-splanchnic arteries from the rat: a comparison with VIP and atriopeptin II: <i>M. Bråtteit, A. Haugan & K. B. Helle</i>	167
Effects of felodipine on the dog kidney: a lithium clearance study: <i>U. Abildgaard, G. Daugaard, P. P. Leyssac & O. Amtorp</i>	175
Blood and plasma volumes determined by carbon monoxide gas, ^{99m} Tc-labelled erythrocytes, ¹²⁵ I-albumin and the T 1824 technique: <i>J. K. Thomsen, N. Fogh-Andersen, K. Bülow & A. Devantier</i>	185
Local and central orthostatic sympathetic reflexes in Raynaud's phenomenon: <i>M. Engelhart & J. K. Kristensen</i>	191
Equilibration of labelled and endogenous bile acids in patients with liver cirrhosis after administration of (24- ¹⁴ C) cholic and chenodeoxycholic acids: <i>G. Hedenborg, G. Jönsson, O. Wisén & A. Norman</i>	197
Diurnal variation of plasma atrial natriuretic peptide in normals and patients with enuresis nocturna: <i>S. Rittig, U. B. Knudsen, J. P. Nørgaard, H. Gregersen, E. B. Pedersen & J. C. Djurhuus</i>	209

No. 3

Original Articles

The relationship between age and venous plasma concentrations of noradrenaline, catecholamine metabolites, DOPA and neuropeptide Y-like immunoreactivity in normal human subjects <i>M. K. Hetland, E. Eldrup, P. Bratholm & N. J. Christensen</i> ...	219
Alpha-2-macroglobulin decreases parallel to albumin and haemoglobin after elective surgery: <i>Å. Lassin, R. Berling, J. Göransson & K. Ohlsson</i>	225

Correlation between leukocyte-associated plasma proteins and white cell differential count: <i>M. M. Andersen & I. J. Christensen</i>	235
A comparison of measurements of lean body mass derived by bioelectrical impedance, skinfold thickness and total body potassium. A study in obese and non-obese normal subjects: <i>G. R. Fulcher, M. Farrer, M. Walker, D. Rodham, B. Clayton & K. G. M. M. Alberti</i>	245
Dietary n-6 fatty acids inhibit the incorporation of dietary n-3 fatty acids in thrombocyte and serum phospholipids in humans: a controlled dietetic study: <i>M. Grønn, C. Gørbitz, E. Christensen, A. Levorsen, L. Ose, T-A. Hagve & B. O. Christophersen</i>	255
Tumour marker CA 125 in patients with digestive tract malignancies: <i>C. Haglund, P. Kuusela, P. Roberts & H. Jalanko</i>	265
Quality control does improve the performance of laboratory practice in primary health care: <i>I. Romslo, M. L. Knutsen & K. Brechan</i>	271
Increased levels of plasma homocysteine are associated with nephropathy, but not severe retinopathy in type 1 diabetes mellitus: <i>B. Hultberg, E. Agardh, A. Andersson, L. Brattström, A. Isaksson, B. Israelsson & C-D. Agardh</i>	277
β -Adrenoceptor regulation in insulin-dependent diabetes mellitus: <i>G. Sager, L. Slordal, N-E. Huseby & J. Florholmen</i>	283
Effect of diet therapy on maximum aerobic power in obese, hyperglycaemic men with recently diagnosed type 2 diabetes: <i>E. Vanninen, M. Uusitupa, O. Siitonen, J. Laitinen, E. Länsimies & K. Pyörälä</i>	289
Protein kinase C subtypes in human neutrophils: <i>D. Obel, L. H. Rasmussen & N. O. Christiansen</i>	299

Technical Note

Use of calcium-titrated sodium heparinate for ionized calcium determination on plasma and whole blood (heparinized blood sampler B-129 Radiometer): <i>C. Sachs, P. Rabouine, M. Chaneac, C. Kindermans & M. Dechaux</i>	303
---	-----

Letter to the Editor

Reliability of the Reflotron system for cholesterol determination: <i>R. Leinberger & P. U. Koller</i>	307
---	-----

No. 4

Original Articles

Biophysical and biochemical alterations in erythrocyte membranes from chronic alcoholics: <i>H. Stibler, F. Beaugé, A. Leguicher & S. Borg</i>	309
Heparin lowers blood pressure and vascular calcium uptake in hypertensive rats: <i>S. Vasdev, V. Prabhakaran & C. A. Sampson</i>	321
The influence of supine relaxation on blood pressure, heart rate and atrial natriuretic peptide in normal subjects: <i>B. K. Øie, B. T. Skadberg, O. L. Myking, A. Aakvaag & O.-J. Ohm</i>	329

A single plasma sample method for estimation of the glomerular filtration rate in infants and children using iohexol, I: establishment of a body weight-related formula for the distribution volume of iohexol: <i>G. Stake & T. Monclair</i>	335
A single plasma sample method for estimation of the glomerular filtration rate in infants and children using iohexol, II: establishment of the optimal plasma sampling time and a comparison with the ^{99m}Tc -DTPA method: <i>G. Stake, E. Monn, K. Rootwelt & T. Monclair</i>	343
Quantification and phenotyping of serum cholinesterase by enzyme antigen immunoassay: methodological aspects and clinical applicability: <i>J. Hangaard, M. Whittaker, A. G. R. Loft & B. Nørgaard-Pedersen</i>	349
Enhanced urinary excretion of albumin and β_2 microglobulin in essential hypertension induced by atrial natriuretic peptide: <i>H. Eiskjær, C. E. Mogensen, A. Schmitz & E. B. Pedersen</i>	359
Effects of insulin on renal haemodynamics and sodium handling in normal subjects: <i>K. Nørgaard, T. Jensen, P. Skøtt & B. Thorsteinsson, N. E. Bruun, J. Giese & B. Feldt-Rasmussen</i>	367
Oxygen free radical-induced injury in isolated rat hearts: effects of ibuprofen and BW 755c: <i>A. G. Semb & J. Vaage</i>	377
Hormonal changes in severely uncontrolled type 1 (insulin-dependent) diabetes mellitus: <i>M. Välimäki, K. Liewendahl, P. Nikkanen & R. Pelkonen</i>	385
Vasodilation by calcitonin gene-related peptide (CGRP) and by transmural stimulation of the methoxamine-contracted rat hepatic artery after pretreatment with guanethidine: <i>M. Bratveit & K. B. Helle</i>	395
ERRATUM	403

No. 5

Original Articles

Modifications induced by gestational diabetes mellitus on cellular properties: <i>L. Mazzanti, R. Staffolani, R. A. Rabini, C. Romanini, A. M. Cugini, G. Benedetti, N. Cester, E. Faloia & R. De Pirro</i>	405
Tetranectin in amniotic fluid, maternal serum and fetal fluids: <i>E. V. S. Høgdaal, C. K. Høgdaal, I. Clemmensen, B. Nørgaard-Pedersen & A. G. R. Loft</i>	411
The stability of immunological and biological activity of human thyrotropin in buffer: its temperature-dependent dissociation into subunits during freezing: <i>T. Kashiwai, K. Ichihara, H. Tamaki, Y. Endo, M. Kimura, K. Takeoka, N. Amino & K. Mitai</i>	417
Apolipoprotein E phenotypes, serum lipoproteins and apolipoproteins in angiographically assessed coronary heart disease: <i>P. M. J. Stuyt, B. J. Brenninkmeijer, P. N. M. Demacker, J. C. M. Hendriks, P. van Elteren, A. F. H. Stalenhoef & A. van 't Laar</i>	425
Influence of dietary fat, cholesterol and energy on serum lipids at vigorous physical exercise: <i>B. Ekstedt, E. Jönsson & O. Johnson</i>	437
Changes in leukocyte subpopulations following total hip replacement surgery. Effects of high doses of corticosteroids: <i>H. E. Høgevold, T. Lyberg & O. Reikeras</i>	443
Clinical assessment of haemoglobin values by general practitioners related to analytical and biological variation: <i>G. Thue, S. Sandberg & P. Fugelli</i>	453

Accuracy of ambulatory blood pressure determination: a comparative study: <i>J. C. Barthélémy, A. Geyssant, C. Auboyer, A. Antoniadis, J. Berruyer, & J. R. Lacours</i> ...	461
Impaired left-ventricular function in insulin-dependent diabetic patients with increased urinary albumin excretion: <i>H. Kelbæk, T. Jensen, B. Feldt-Rasmussen, N. J. Christensen, E. A. Richter, T. Deckert & S. L. Nielsen</i>	467
Influence of sex and growth hormone deficiency on sweating: <i>K. Main, K. O. Nilsson & N. E. Skakkebæk</i>	475
Possible role for a plasma factor in the induction and/or maintenance of the state of leukocyte adhesiveness/aggregation in the peripheral blood. A study of mothers and their newborns: <i>A. Lidor, N. Arber, S. Berliner, A. Lifshitz, G. Segal, M. Aronson, A. Neri, J. Pinkhas & M. P. David</i>	481
Interference by cryoglobulins with white blood cell measurements on Coulter Counter: <i>A. Bremmelgaard & J. Nygård</i>	489
The decrease in osmotic fragility of erythrocytes during supplementation with n-3 fatty acids is a transient phenomenon: <i>T-A. Hagve, M. Grønn & B. O. Christophersen</i>	493
LETTERS TO THE EDITOR	497

No. 6

Original Articles

Hyperglycaemia but not hyperinsulinaemia prevents the secretion of glucagon-like peptide-1 (7-36 amide) stimulated by fat ingestion: <i>H. Takahashi, H. Manaka, K. Suda, N. Fukase, A. Sekikawa, H. Eguchi, M. Tominaga & H. Sasaki</i>	499
Toxicity of sitosterol to human umbilical vein endothelial cells <i>in vitro</i> : <i>K. M. Boberg, K. S. Pettersen & H. Prydz</i>	509
Clinical usefulness of serum tartrate-resistant acid phosphatase activity determination to evaluate bone turnover: <i>L. Scarnecchia, S. Minisola, M. T. Pacitti, V. Carnevale, E. Romagnoli, R. Rosso & G. F. Mazzuoli</i>	517
Effects of an essential fatty acid-supplemented diet on leukotriene B ₄ -induced rat neutrophil functions: <i>H. Gyllenhammar, J. Palmblad & B. Ringertz</i>	525
Comparison of different standards used in radio-immunoassay for atrial natriuretic factor (ANF): <i>P. H. Rasmussen, N. E. Bruum & J. Giese</i>	533
Intracellular free calcium concentration and thromboxane A ₂ formation of vascular smooth muscle cells are influenced by fish oil and n-3 eicosapentaenoic acid: <i>R. Locher, A. Sachinidis, C. Brunner & W. Vetter</i>	541
Distribution and elimination of intravenously injected urinary trypsin inhibitor: <i>B.-M. Jönsson-Berling & K. Ohlsson</i>	549
Clearance of xenon-133 from bone marrow in patients with small-cell lung cancer: <i>L. J. Petersen, L. Friberg, J. Jensen, J. Bülow, M. Hansen & J. Madsen</i>	559
A simple and rapid method for purification of rat haptoglobin for production of antiserum: <i>I. Wassdal, A. H. Myrset & L. Helgeland</i>	565

No. 7

Review of Two Scandinavian Theses

- Physiology and pathophysiology of GIP: a review: *T. Krarup & P-H. Groop* ... 571

ORIGINAL ARTICLES

- Possible roles of vascular intima for generation of coagulant activity in patients undergoing coronary thrombolysis with recombinant tissue-type plasminogen activator. A randomized, placebo-controlled study: *S. Munkvad, J. Gram & J. Jespersen* ... 581
- Effects of short-term treatment with naproxen on kidney function in insulin-dependent diabetic patients with microalbuminuria: *L. Nilsen, O. Djøseland, K. Rootwelt & K. J. Berg* ... 591
- Plasmin inhibitory effect of rat tissues: comparison with antiplasmin activity of plasma: *T. Padró, C. M. van den Hoogen & J. J. Emeis* ... 599
- The independent effect of ketone bodies on forearm glucose metabolism in normal man: *M. Walker, G. R. Fulcher, H. Marsiaj, H. Orskov & K. G. M. M. Alberti* ... 605
- Radio-immunoassay of endothelin in human plasma: *S. S. Sørensen* ... 615
- Evaluation of DNA-based diagnosis for haemophilia A: *C. Wadelius, M. Blombäck, P. Goonewardena, M. Anvret, M. Lindstedt, K. H. Gustavson & U. Pettersson* ... 625
- Iron stores in 1433, 30- to 60-year-old Danish males. Evaluation by serum ferritin and haemoglobin: *N. Milman & M. Kirchhoff* ... 635
- Calprotectin (the LI protein) during surgery in patients with rheumatoid arthritis: *H. Berner Berntzen, G. K. M. Endresen, M. K. Fagerhol, J. Spiechowicz & P. Mowinckel* ... 643

Technical Notes

- A comparison between haematological parameters in 'capillary' and venous blood samples from hospitalized children aged 3 months to 14 years: *L. N. W. Daae, M. Hallerud & S. Halvorsen* ... 651
- Respiratory gas exchange during treadmill exercise testing: reproducibility and comparison of different exercise protocols: *J. E. Nordrehaug, R. Danielson, L. Stangeland, G. A. Rosland & H. Vik-Mo* ... 655

No. 8

Original Articles

- Adrenergic receptors are a fallible index of adrenergic denervation hypersensitivity: *A. Dejgaard, S. B. Liggett, N. J. Christensen, P. E. Cryer & J. Hilsted* ... 659
- Experimental latent and acute porphyria in the non-fasted rat; preventive effect of propranolol: *N. Schoenfeld, R. Mamet, R. Mevasser & A. Atsmon* ... 667
- Is the fluorescein dilaurate test suitable for monitoring the effectiveness of pancreatic enzyme replacement therapy?: *L. M. Burrell, E. J. S. Boyd & K. G. Wormsley* ... 675
- Characterization of immunoreactive pancreastatin in porcine tissues: *T. D. Børghlum Jensen, J. J. Holst & J. Fahrenkrug* ... 681
- Elevated hyaluronan blood concentrations in severely burned patients: *H. Onarheim, R. K. Reed & T. C. Laurent* ... 693

The [^{14}C]-triolein breath test is not valid as a test of fat absorption: <i>N. T. Pedersen, B. B. Jørgensen & T. Rannem</i>	699
Serum dolichols in different clinical conditions: <i>H. Humaloja, R. P. Roine, K. Salmela, E. Halmesmäki, J. Jokelainen & M. Salaspuro</i>	705
β -Hexosaminidase in cultured normal and mutant human fibroblasts: an immunohistochemical and biochemical investigation: <i>M. E. Elsafi, M. I. Elbashir, B. Hultberg, A. Isaksson, I. Hägerstrand & U. Stenram</i>	711
Effects of hyperglycaemia on kidney function, atrial natriuretic factor and plasma renin in patients with insulin-dependent diabetes mellitus: <i>P. Skøtt, A. Vaag, O. Hother-Neilsen, P. Andersen, N. E. Bruun, J. Giese, H. Beck-Nielsen & H-H. Parving</i>	715
The clearance of iohexol as a measure of the glomerular filtration rate in children with chronic renal failure: <i>G. Stake, E. Monn, K. Rootwelt & T. Monclair</i>	729
Biological variation in the catalytic concentration of pancreatic α -amylase and triacylglycerol lipase in serum: <i>J. Huguet & X. Fuentes-Arderiu</i>	735